

**IN THE UNITED STATES DISTRICT COURT  
FOR THE NORTHERN DISTRICT OF TEXAS  
DALLAS DIVISION**

AIRBORNE ASPECT, INC.,

Plaintiff,

v.

NV5 GEOSPATIAL, INC.,

Defendant.

Case No. \_\_\_\_\_

**COMPLAINT**

Plaintiff Airborne Aspect, Inc. files this Original Complaint against Defendant NV5 Geospatial, Inc., in support of which Plaintiff alleges as follows:

**I. NATURE OF THE ACTION**

1. This is an action for patent infringement under 35 U.S.C. § 271 et seq. in which Plaintiff Airborne Aspect, Inc. seeks damages and other relief against Defendant NV5 Geospatial, Inc. for making, using, importing, selling, and/or offering to sell an extended exhaust apparatus that incorporates the same or substantially similar technology so as to infringe, or the use of which infringes, one or more claims of U.S. Patent Nos. 10,071,814 (“the ‘814 Patent”) and 10,486,822 (“the ‘822 Patent”) (collectively, the ‘814 Patent and ‘822 Patent may be referred to as the “Patents-in-Suit”).

**II. THE PARTIES**

2. Plaintiff Airborne Aspect, Inc. (hereinafter “AAI”) is a Texas corporation having its principal place of business at 8029 Marathon Dr., Plano, TX 75024.

3. On information and belief, Defendant NV5 Geospatial, Inc. (hereinafter “NV5”) is

a Wisconsin corporation registered to do business in Texas, and having a regular and established place of business at 350 N. St. Paul St., Dallas, TX 75201. A record for NV5 from the Texas Secretary of State website shows the following:

**TEXAS SECRETARY of STATE**  
**JANE NELSON**

| BUSINESS ORGANIZATIONS INQUIRY - VIEW ENTITY |  |   |
|--|--|---|
| Filing Number:                               | 11876106   | Entity Type: Foreign For-Profit Corporation |
| Original Date of Filing:                     | December 18, 1997                                | Entity Status: In existence                 |
| Formation Date:                              | N/A  |   |
| Tax ID:                                      | 32000361017                                      | FEIN:                                       |
| Name:  | NV5 Geospatial, Inc.                             |   |
| Address:                                     | 350 N. ST. PAUL ST.<br>Dallas, TX 75201-0000 USA |   |
| Fictitious Name:                             | N/A  |   |
| Jurisdiction:                                | WI, USA  |   |
| Foreign Formation Date:                      | N/A  |   |

| <a href="#">REGISTERED AGENT</a>  | <a href="#">FILING HISTORY</a> | <a href="#">NAMES</a>                                     | <a href="#">MANAGEMENT</a> | <a href="#">ASSUMED NAMES</a> | <a href="#">ASSOCIATED ENTITIES</a> | <a href="#">INITIAL ADDRESS</a> |
|---|--------------------------------|---|----------------------------|-------------------------------|-------------------------------------|---------------------------------|
| Name  |                                | Address   |                            | Inactive Date                 |                                     |                                 |
| Corporation Service Company d/b/a CSC-Lawyers Incorporating Service Company |                                | 211 E. 7th Street, Suite 620<br>Austin, TX 78701-3218 USA |                            |                               |                                     |                                 |

### III. JURISDICTION AND VENUE

4. This Court has subject matter jurisdiction in this action based on 28 U.S.C. §§ 1331, 1338(a).

5. This Court has general personal jurisdiction over NV5 inasmuch as NV5 has a regular and established place of business in this judicial district, it is registered to do business in the State of Texas, and it has conducted business in the State of Texas, including in this judicial district.

6. This Court has specific personal jurisdiction over NV5 inasmuch as NV5 has a regular and established place of business in this judicial district, it is registered to do business in the State of Texas, and it has conducted business in the State of Texas, including in this judicial district, and NV5 has committed, or caused to be committed, acts of infringement of the Patents-in-Suit

within the State of Texas and this judicial district.

7. Pursuant to 28 U.S.C. § 1400(b), venue is proper in this judicial district inasmuch as NV5 has a regular and established place of business in this judicial district at 350 N. St. Paul St., Dallas, TX 75201, and has committed, or caused to be committed, acts of infringement of the Patents-in-Suit within this judicial district.

8. Further facts supporting personal jurisdiction and venue in this Court include the following:

9. NV5 owns, operates, and/or uses multiple Cessna® C208 Caravan® single turboprop aircraft that have been modified to include an exhaust arrangement, for aircraft such as the Cessna® 208, that contain sensors used to obtain images, detect chemicals, and the like, as described in the Patents-in-Suit. A representative example of one is shown below:



10. Since at least as early as March 4, 2021 in its Statement of Qualifications for Statewide On-Call Aerial Lidar Services Packet A, NV5 has held itself out as an entity that conducts aerial surveys to collect LiDAR ("Light Detection and Ranging), which is a remote sensing

technology that uses lasers to measure distances and create 3D models of the Earth's surface. *See Exhibit 1* attached hereto. Pages 8-10 of Exhibit 1 show that NV5 was conducting flights to collect LiDAR even in 2020 (as well as in 2019 through its predecessor Quantum Geospatial). NV5 also stated on page 11 of Exhibit 1 that, “NV5 Geospatial owns a fleet of 10 aircraft and we have additional capacity from our partners.” On the same page 11 of Exhibit 1, NV5 also stated, “The engine exhaust is routed out the right hand side of the engine cowling, which keeps the sensor and its port completely free of exhaust or engine heat.”

11. Also listed on the same page 11 are NV5’s aircraft as follows:

## CRITERIA 2 | PROPOSED EQUIPMENT

### AIRCRAFT

| Aircraft Make/Model                   | FAA Cert. No./ID | Total Time on Aircraft (hrs) | Total Time on Engine (hrs) | TBO Remaining (hrs)    | Engine Exhaust Routing       | Service Ceiling (feet) |
|---------------------------------------|------------------|------------------------------|----------------------------|------------------------|------------------------------|------------------------|
| <b>Multi-engine Turbine</b>           |                  |                              |                            |                        |                              |                        |
| Cessna Conquest 1979 C441             | N441CJ           | 13504.0                      | L: 13559.4<br>R: 11821.2   | L: 2492.5<br>R: 2456.9 | N/A                          | 35,000                 |
| <b>Single Engine Turbine</b>          |                  |                              |                            |                        |                              |                        |
| Cessna Grand Caravan 2004 208B        | N704MD           | 15175.4                      | 14857.2                    | 380.6                  | Lower right side of fuselage | 25,000                 |
| Cessna Grand Caravan 2004 208B        | N604MD           | 15047.2                      | 14609.0                    | 1030.0                 | Lower right side of fuselage | 25,000                 |
| Cessna Grand Caravan 2005 208B        | N208NR           | 7912.5                       | 1.5                        | 3598.5                 | Lower right side of fuselage | 25,000                 |
| Cessna Caravan 1985 208               | N840JA           | 14819.2                      | 14040.8                    | 1442.3                 | Lower right side of fuselage | 25,000                 |
| Cessna Caravan 1997 208               | N208JA           | 8510.8                       | 8274.3                     | 3487.7                 | Lower right side of fuselage | 25,000                 |
| Cessna Grand Caravan 2007 208B        | N22TE            | 5944.1                       | 18261.6                    | 3689.5                 | Lower right side of fuselage | 25,000                 |
| Cessna Grand Caravan 2001 208B        | N473TW           | 15609.2                      | 7196.8                     | 803.2                  | Lower right side of fuselage | 25,000                 |
| <b>Multi-engine Piston</b>            |                  |                              |                            |                        |                              |                        |
| Piper Navajo Chieftain 1981 PA-31-350 | N812TB           | 9216.4                       | L: 3574.0<br>R: 5778.8     | L: 1740.6<br>R: 1740.6 | N/A                          | 24,000                 |
| Piper Navajo Chieftain 1977 PA-31-350 | N6GR             | 16947.2                      | L: 14629.0<br>R: 13859.1   | L: 247.0<br>R: 1183.7  | N/A                          | 24,000                 |

12. The same page 11 also showed at least a part of NV5’s fleet of aircraft in a photograph:



13. Based on such information alone, NV5 has seemingly admitted infringement of the Patents-in-Suit.

14. One of the aircraft NV5 stated that it owned was a Cessna Grand Caravan 2005 208B having FAA Certification No./Tail ID No. N208NR. Photographs of this aircraft are shown below:





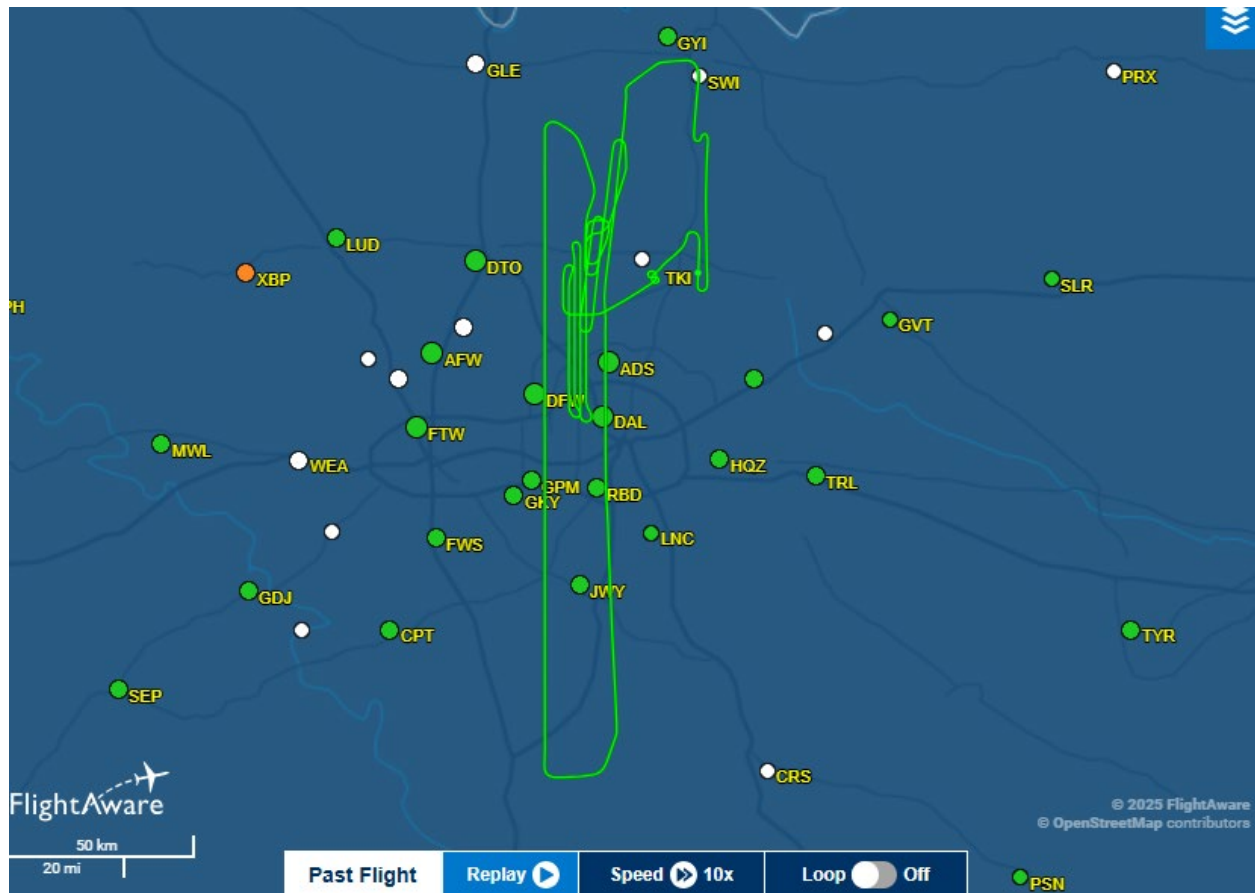


15. These photographs show the aircraft and the infringing exhaust arrangement. NV5 admits to conducting aerial surveys for LiDAR using an aircraft with an exhaust arrangement that permits the engine exhaust to be routed out of the right-hand side of the engine cowling so as to keep the sensor and its port completely free of exhaust or engine heat.

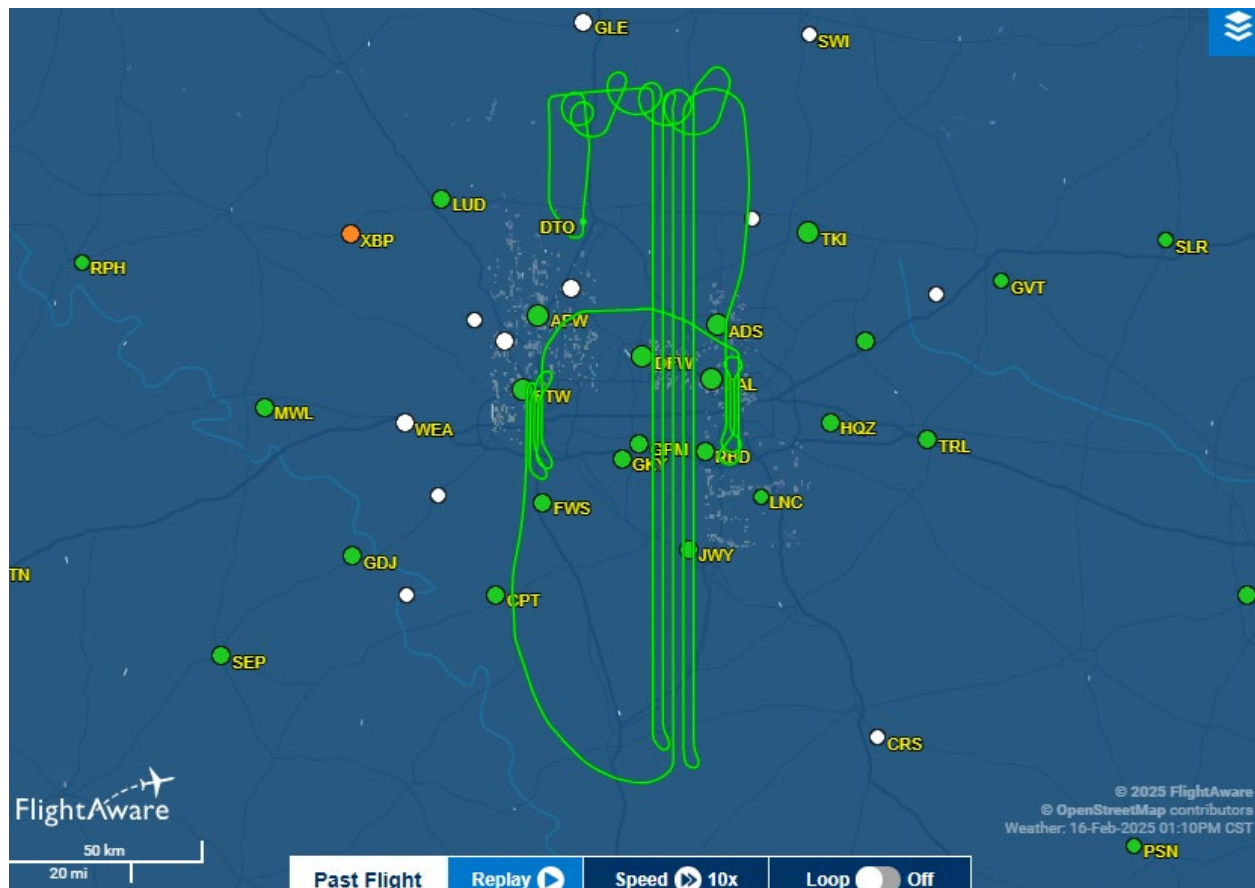
16. In addition, such activities are taking place in this judicial district. NV5 claimed to own the aircraft having ID No. N208NR, and NV5 regularly conducts flights, survey operations, and the like in Texas and in this judicial district with at least Aircraft No. N208NR.

17. For example, on February 25, 2025, the aircraft having ID No. N208NR took off from the airport in McKinney, Texas at 11:10 AM CST and returned to the airport in McKinney, Texas at 2:27 PM CST. The flight path included aerial survey activity (as shown by the tightly aligned flight track paths heading north and south) east and northeast of Dallas-Fort Worth

International Airport (abbreviated DFW) as well as west and northwest of Love Field (abbreviated DAL), each of which are located in this judicial district:

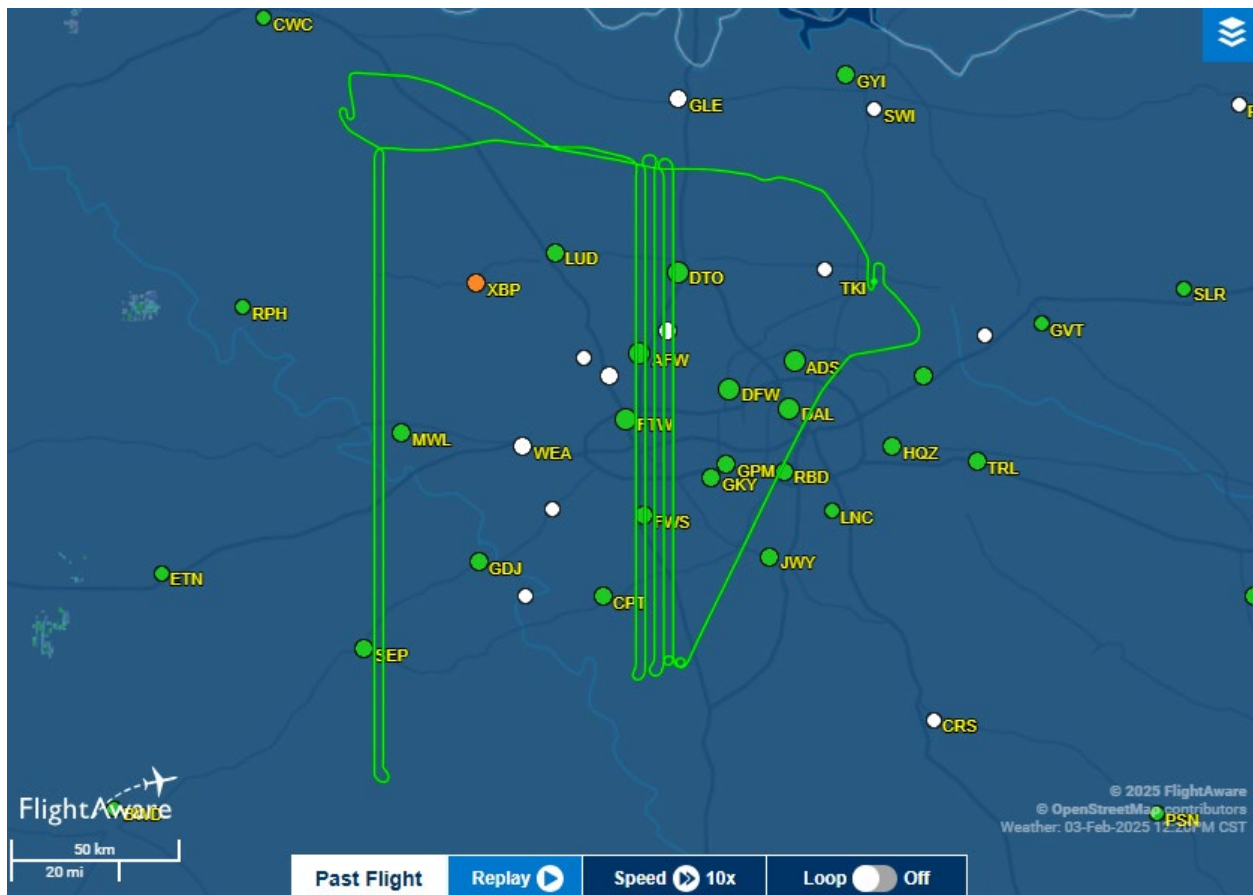


18. Also, by way of example, on February 16, 2025, the aircraft having ID No. N208NR took off from the airport in Denton, Texas at 10:18 AM CST and returned to the airport in Denton, Texas at 4:06 PM CST. The flight path included aerial survey activity (as shown by the tightly aligned flight track paths heading north and south) slightly east of Dallas-Fort Worth International Airport (DFW), as well as slightly east of Love Field (DAL), each of which are located in this judicial district:



19. Also, by way of example, on February 3, 2025, the aircraft having ID No. N208NR took off from the airport in McKinney, Texas at 9:34 AM CST and returned to the airport in McKinney, Texas at 3:09 PM CST. The flight path included aerial survey activity (as shown by the tightly aligned flight track paths heading north and south) directly over both north and south of the airport Fort Worth (abbreviated FTW), and also including part of the flight plan slightly east of Love Field (DAL) and the airport in Addison (ADS), each of which (Dallas, Addison, and Fort Worth) are located in this judicial district:





20. Also, by way of example, on February 2, 2025, the aircraft having ID No. N208NR took off from the airport in McKinney, Texas at 9:46 AM CST and returned to the airport in McKinney, Texas at 3:15 PM CST. The flight path included aerial survey activity (as shown by the tightly aligned flight track paths heading north and south) west of the airport in Fort Worth (FTW) and approximately between the airports in Mineral Wells, Texas (abbreviated MWL) and Stephenville, Texas (abbreviated SEP), each of which Fort Worth, Mineral Wells, and Stephenville) are located in this judicial district:



21. The foregoing demonstrates that NV5 has a regular and established place of business in this judicial district and has committed acts of infringement in this judicial district. Therefore, venue is proper in this judicial district.

#### IV. FACTUAL BACKGROUND

22. AAI provides real-time airborne chemical and radiological detection and infrared and photographic imagery services. AAI provides its services through or in association with the Environmental Protection Agency's Chemical, Biological, Radiological, and Nuclear Consequence Management Advisory Division (CMAD) to support all phases of consequence management for emergency responses, homeland security missions, hazardous substance response and radiological incidents, natural disasters, and special security events in the United States by providing local, state, and federal operation centers and first responders and other on-

scene personnel with the real-time information needed to make critical decisions during hazardous substance and radiological incidence responses.

23. AAI utilizes small aircraft, such as the Cessna® 208 Caravan® and the Cessna® 208B Grand Caravan® aircraft to conduct its airborne operations and has been deployed across the United States for approximately 164 critical events and responses. AAI employs an advanced suite of on-board equipment, sensors, and software in its aircraft to conduct its flyover operations, which includes infrared line scanners, high speed infrared spectrometers, gamma-ray spectrometers, digital aerial cameras, satellite data systems, and data delivery systems that utilize the Google Earth visualization tools to provide its detection and imagery services.

24. These small aircraft typically have short factory exhaust systems that exit from the nose of the aircraft and abruptly end forward of the main fuselage of the aircraft. AAI discovered that the highly sensitive on-board sensor equipment used on its aircraft were often affected and/or become contaminated by the hot engine exhaust and exhaust contaminants from the standard exhaust system, which often resulted in inaccurate and/or misinterpreted readings from the sensor equipment. Recognizing that the accuracy and reliability of its detection, imaging, and scanning operations could be improved by directing the hot engine exhaust and exhaust contaminants away from the on-board sensor equipment, the inventors listed on the Patents-in-Suit set out to solve the problems associated with these short factory exhaust systems. Their efforts resulted in the inventions disclosed and claimed in the Patents-in-Suit. A copy of the '814 Patent is attached hereto as **Exhibit 2**. A copy of the '822 Patent is attached hereto as **Exhibit 3**.

25. AAI is the record title holder by assignment of each of the Patents-in-Suit, which are valid and enforceable in the U.S.

26. The '814 Patent issued on September 11, 2018, and is scheduled to expire on or

about March 7, 2037. As a general matter, the '814 Patent claims an exhaust apparatus for an aircraft having a fuselage, an engine exhaust having an outlet area disposed at the nose of the aircraft, and a sensor disposed at a location of the fuselage. The claimed exhaust apparatus includes an inlet having a mouth that communicates with the engine exhaust of the aircraft and an intake area larger than the outlet area of the engine exhaust, at least one tubular extension having a first end in communication with the inlet to receive both inlet air and exhaust output from the engine exhaust and a second end that extends beyond the location of the sensor. The at least one tubular extension is mountable at a plurality of support locations along the fuselage, each of the support locations having first, second, and third arms pivotally connected between the fuselage and the at least one tubular extension of the exhaust apparatus and providing support to the exhaust apparatus along first, second, and third axes, respectively, which are perpendicular to one another.

27. The '822 Patent issued on November 26, 2019, and is scheduled to expire on or about August 14, 2035. As a general matter, the '822 Patent claims an exhaust apparatus for an aircraft having a fuselage, an engine exhaust having an outlet area disposed at the nose of the aircraft, and a sensor disposed at a location of the fuselage. The claimed exhaust apparatus includes an inlet having a mouth that communicates with the engine exhaust of the aircraft and an intake area larger than the outlet area of the engine exhaust, at least one tubular having a first end in communication with the inlet to receive both inlet air and exhaust output from the engine exhaust and a second end that extends beyond the location of the sensor. The at least one tubular is mountable at a plurality of support locations along the fuselage, each of the support locations having first, second, and third arms pivotally connected between the fuselage and the at least one tubular of the exhaust apparatus and providing support to the exhaust apparatus along first,

second, and third axes, respectively, which are different from one another. The third arms of the first and second support locations provide support to the exhaust apparatus in opposing directions.

28. The '822 Patent also generally claims an aircraft having a fuselage, an engine exhaust with an outlet area disposed at the nose of the aircraft, a sensor opening disposed at a location of the fuselage, an inlet having a mouth that communicates with the engine exhaust of the aircraft and an intake area larger than the outlet area of the engine exhaust, at least one tubular having a first end in communication with the inlet to receive both inlet air and exhaust output from the engine exhaust and a second end that extends beyond the location of the sensor, and first and second supports disposed at first and second support locations, respectively, each of the support locations having first, second, and third arms pivotally connected between the fuselage and the at least one tubular of the exhaust apparatus and providing support to the exhaust apparatus along first, second, and third axes, respectively, which are different from one another. The third arms of the first and second support locations provide support to the exhaust apparatus in opposing directions.

29. AAI outfits its own aircraft with, and intends to begin manufacturing, selling, and/or installing, its exhaust systems in the United States on aircraft in a manner that will be covered by one or more claims of the Patents-in-Suit.

30. AAI has become aware that NV5 uses and operates aircraft in the United States with infringing exhaust systems. On information and belief, NV5 owns, uses, and/or operates at least seven different aircraft having a similar exhaust system that infringes one or more claims of the Patents-in-Suit (i.e., Aircraft ID Nos. N704MD, N604MD, N208NR, N208JA, N840JA, N22TE, and N473TW, hereinafter the "NV5 aircraft") and has used, owned, and/or operated such aircraft since at least as early as March of 2021, if not earlier.



31. Based on NV5's advertising, literature, and its flight tracking data, as well as a visual inspection of one of the NV5 aircraft, specifically the one with ID No. N208NR, AAI firmly believes that the NV5 aircraft infringe, or NV5's use of the NV5 aircraft for aerial surveys, infringe, one or more claims of each of the Patents-in-Suit. On information and belief, NV5 itself and/or through one of its parents, subsidiaries, affiliates, and/or contractors has directed the outfitting, manufacture, sale, and/or use of aircraft outfitted with the infringing exhaust systems.

## **V. CAUSES OF ACTION**

### **Count I – Infringement of the '814 Patent**

32. AAI hereby incorporates by reference all of the allegations contained in the previous paragraphs of this Complaint.

33. Attached hereto as **Exhibit 4** is a claim chart pertaining to one of the NV5 aircraft, specifically the aircraft having ID No. N208NR, with annotations showing how it or its use corresponds to the elements of at least one claim of the '814 Patent, as further explained below.

34. The '814 Patent has a single independent claim, claim 1, that is infringed by the NV5 aircraft with its exhaust system. NV5 has infringed and continues to infringe one or more claims of the '814 Patent, including independent claim 1, as well as other dependent claims such as claims 5 and 6, without license or authorization from AAI and in violation of 35 U.S.C. § 271(a), (b), and/or (c) by operating the NV5 aircraft in the U.S., by directing the outfitting, manufacture, sale, and/or use of the NV5 aircraft having the infringing exhaust systems in the U.S., by knowingly and/or intentionally inducing others to infringe the '814 Patent by causing them to use and/or outfit an aircraft with the exhaust arrangement described in the '814 Patent, and/or by knowingly and/or intentionally contributing to the infringement of others by supplying non-staple articles of commerce having no substantial non-infringing use (such as the exhaust arrangement)

that are used by others and fully constitute and use systems that infringe the '814 Patent.

35. The use of the NV5 aircraft involves an exhaust apparatus for an aircraft having a fuselage, an engine exhaust with an outlet area disposed at a nose of the aircraft, and a sensor disposed at a location of the fuselage as claimed in independent claim 1 of the '814 Patent. As required by claim 1, the exhaust apparatus involves: an inlet having a mouth communicating with the engine exhaust, the mouth defining an intake area larger than the outlet area of the exhaust; at least one tubular extension having first and second ends and mountable at a plurality of support locations to the fuselage, the first end connected in communication to the inlet, the first end receiving exhaust output from the engine exhaust along with intake air from the mouth, the second end extending beyond the location of the sensor; a first support disposed at a first of the support locations on the at least one tubular, the first support having first, second, and third arms, the first arm pivotally connected between the fuselage and the at least one tubular and supporting the same along a first axis, the second arm pivotally connected between the fuselage and the at least one tubular and supporting the same along a second axis perpendicular to the first axis, the third arm pivotally connected between the fuselage and the at least one tubular and supporting the same in one direction along a third axis perpendicular to the first and second axes; and a second support disposed at a second of the support locations on the at least one tubular, the second support having first, second, and third arms, the first arm pivotally connected between the fuselage and the at least one tubular and supporting the same along the first axis, the second arm pivotally connected between the fuselage and the at least one tubular and supporting the same along the second axis, the third arm pivotally connected between the fuselage and the at least one tubular and supporting the same in an opposite direction along the third axis. Each of the elements of claim 1 of the '814 Patent are present in the infringing exhaust systems installed on the NV5 aircraft, either literally

or under the doctrine of equivalents, and function in accordance with the intended use of the claimed exhaust apparatus as illustrated in **Exhibit 4**.

36. Thus, by using the NV5 aircraft having the infringing exhaust systems in the U.S., NV5 is directly infringing at least claim 1 of the '814 Patent and is liable as an infringer under 35 U.S.C. § 271(a).

37. Similarly, on information and belief, NV5, through its advertising and marketing efforts and statements, is knowingly and/or intentionally inducing others to infringe the '814 Patent by directing them how to make, use, import, offer to sell, and/or sell an aircraft bearing an exhaust arrangement such that the claims of the '814 Patent are infringed.

38. Similarly, on information and belief, NV5 is contributing to the infringement of the '814 Patent by others by knowingly and/or intentionally directing the outfitting, manufacture, sale, and/or use of these infringing exhaust systems itself and/or through one of its parents, subsidiaries, affiliates, and/or contractors. The infringing exhaust systems are not staple articles of commerce and are not capable of any substantial non-infringing use – they only work with the specific aircraft for which each exhaust system is designed and have no other utility. At a minimum, NV5's parents, subsidiaries, affiliates, and/or contractors that, on information and belief, manufacture and sell the infringing exhaust systems to NV5 at NV5's direction are also direct infringers of the '814 Patent under 35 U.S.C. § 271(a).

39. Because AAI has marked its exhaust arrangements with its patent numbers since shortly (i.e., within a few months) after the respective issue dates of each of the Patents-in-Suit, NV5 has been on constructive notice of the '814 Patent since approximately January 1, 2019, if not earlier. Because of the striking similarities between the exhaust arrangement on the AAI aircraft and that on the NV5 aircraft, AAI believes that NV5 personnel, or personnel acting on

NV5's behalf and/or associated with NV5, visually observed the exhaust arrangement on the AAI aircraft, and decided to copy it, prior to outfitting the NV5 aircraft with the infringing exhaust arrangements. If and when AAI has evidentiary confirmation of the same, it will seek to amend this Complaint to further elaborate on its willful infringement allegations. The exhaust system on AAI's aircraft is engraved with the '814 Patent number as shown in **Exhibit 5**.

40. Since 2022, NV5's continued infringement with, at a minimum, constructive notice of the '814 Patent and without taking any steps to avoid infringement of the '814 Patent constitutes willful infringement.

41. AAI has been damaged in an amount subject to proof at trial either by way of lost profits and/or a reasonably royalty both of NV5's making and using of its infringing aircraft. Furthermore, AAI has suffered and will continue to suffer irreparable harm as a result of NV5's continuing infringement of the '814 Patent, including by way of lost operations and sales of AAI's products covered by the '814 Patent. This will only be exacerbated as AAI begins to manufacture, sell, and/or install its exhaust systems in the United States on aircraft in a manner that will be covered by one or more claims of the Patents-in-Suit.

#### **Count II – Infringement of the '822 Patent**

42. AAI hereby incorporates by reference all of the allegations contained in the previous paragraphs of this Complaint.

43. Attached hereto as **Exhibit 6** is a claim chart pertaining to one of the NV5 aircraft, specifically the aircraft having ID No. N208NR, with annotations showing how it or its use corresponds to the elements of at least one claim of the '822 Patent, as further explained below.

44. The '822 Patent has two independent claims, claims 1 and 14, that are infringed by the NV5 aircraft with its exhaust system. NV5 has infringed and continues to infringe one or more

claims of the '822 Patent, including independent claims 1 and 14, as well as other dependent claims such as claims 5 and 6, without license or authorization from AAI and in violation of 35 U.S.C. § 271(a), (b), and/or (c) by operating the NV5 aircraft in the U.S., by directing the outfitting, manufacture, sale, and/or use of the NV5 aircraft having the infringing exhaust systems in the U.S., by knowingly and/or intentionally inducing others to infringe the '822 Patent by causing them to use and/or outfit an aircraft with the exhaust arrangement described in the '822 Patent, and/or by knowingly and/or intentionally contributing to the infringement of others by supplying non-staple articles of commerce having no substantial non-infringing use (such as the exhaust arrangement) that are used by others and fully constitute and use systems that infringe the '814 Patent

45. The use of the NV5 aircraft involves an exhaust apparatus for an aircraft having a fuselage, an engine exhaust with an outlet area disposed at a nose of the aircraft, and a sensor disposed at a location of the fuselage as claimed in independent claim 1 of the '822 Patent. As required by claim 1, the exhaust apparatus involves: an inlet having a mouth communicating with the engine exhaust, the mouth defining an intake area larger than the outlet area of the exhaust; an inlet having a mouth communicating with the engine exhaust, the mouth defining an intake area larger than the outlet area of the exhaust; and first and second supports disposed at first and second of the support locations on the at least one tubular, each of the first and second supports having first, second, and third arms, each of the first arms pivotally connected between the fuselage and the at least one tubular and supporting the same in a first direction, each of the second arms pivotally connected between the fuselage and the at least one tubular and supporting the same in a second direction different from the first direction, one of the third arms for the first support pivotally connected between the fuselage and the at least one tubular and supporting the same in a third direction different from the first and second directions, another of the third arms for the



second support pivotally connected between the fuselage and the at least one tubular and supporting the same in a fourth direction opposing the third direction. Each of the elements of claim 1 of the '822 Patent are present in the exhaust systems installed on the NV5 aircraft, either literally or under the doctrine of equivalents, and function of the claimed exhaust apparatus in accordance with the intended use as illustrated in **Exhibit 6**.

46. Thus, by using the NV5 aircraft having the infringing exhaust systems in the U.S., NV5 is directly infringing at least claim 1 of the '822 Patent and is liable as an infringer under 35 U.S.C. § 271(a).

47. Similarly, on information and belief, NV5, through its advertising and marketing efforts and statements, is knowingly and/or intentionally inducing others to infringe the '822 Patent by directing them how to make, use, import, offer to sell, and/or sell an aircraft bearing an exhaust arrangement such that the claims of the '822 Patent are infringed.

48. Similarly, on information and belief, NV5 is contributing to the infringement of the '822 Patent by others by knowingly and/or intentionally directing the outfitting, manufacture, sale, and/or use of these infringing exhaust systems itself and/or through one of its parents, subsidiaries, affiliates, and/or contractors. The infringing exhaust systems are not staple articles of commerce and are not capable of any substantial non-infringing use – they only work with the specific aircraft for which each exhaust system is designed and have no other utility. At a minimum, NV5's parents, subsidiaries, affiliates, and/or contractors that, on information and belief, manufacture and sell the infringing exhaust systems to NV5 at NV5's direction are also direct infringers of the '822 Patent under 35 U.S.C. § 271(a).

49. The use of the NV5 aircraft involves an aircraft as claimed in independent claim 14 of the '822 Patent. As required by claim 14, the aircraft involves the aircraft having a fuselage, an

engine exhaust with an outlet area disposed at a nose of the aircraft, a sensor opening disposed at a location of the fuselage, an inlet having a mouth communicating with the engine exhaust, the mouth defining an intake area larger than the outlet area of the exhaust, least one tubular having first and second ends and mountable at a plurality of support locations to the fuselage, the first end connected in communication to the inlet, the first end receiving exhaust output from the engine exhaust along with intake air from the mouth, the second end extending beyond the location of the sensor, and first and second supports disposed at first and second of the support locations on the at least one tubular, each of the first and second supports having first, second, and third arms, each of the first arms pivotally connected between the fuselage and the at least one tubular and supporting the same in a first direction, each of the second arms pivotally connected between the fuselage and the at least one tubular and supporting the same in a second direction different from the first direction, one of the third arms pivotally connected between the fuselage and the at least one tubular and supporting the same in a third direction different from the first and second directions, another of the third arms pivotally connected between the fuselage and the at least one tubular and supporting the same in a fourth direction opposing the third direction. Each of the elements of claim 14 of the '822 Patent are present in the infringing aircraft, either literally or under the doctrine of equivalents, and function in accordance with the intended use of the aircraft.

50. Thus, by using the NV5 aircraft in the U.S., NV5 is directly infringing at least claim 14 of the '822 Patent and is liable as an infringer under 35 U.S.C. § 271(a).

51. Similarly, on information and belief, NV5, through its advertising and marketing efforts and statements, is knowingly and/or intentionally inducing others to infringe the '822 Patent by directing them how to use an aircraft bearing an exhaust arrangement such that the claims of the '822 Patent are infringed.

52. Similarly, on information and belief, NV5 is contributing to the infringement of the ‘822 Patent by others by knowingly and/or intentionally directing the use of the infringing NV5 aircraft itself and/or through one of its parents, subsidiaries, affiliates, and/or contractors. The infringing NV5 aircraft are not staple articles of commerce and are not capable of any substantial non-infringing use – they are specific aircraft adapted with the infringing exhaust systems for LiDAR detection and imaging and have no other utility. At a minimum, NV5’s parents, subsidiaries, affiliates, and/or contractors that use the infringing NV5 aircraft are also direct infringers of the ‘822 Patent under 35 U.S.C. § 271(a).

53. Because AAI has marked its exhaust arrangements with its patent numbers since shortly (i.e., within a few months) after the respective issue dates of each of the Patents-in-Suit, NV5 has been on constructive notice of the ‘822 Patent since approximately March 1, 2020, if not earlier. Because of the striking similarities between the exhaust arrangement on the AAI aircraft and that on the NV5 aircraft, AAI believes that NV5 personnel, or personnel acting on NV5’s behalf and/or associated with NV5, visually observed the exhaust arrangement on the AAI aircraft, and decided to copy it, prior to outfitting the NV5 aircraft with the infringing exhaust arrangements. If and when AAI has evidentiary confirmation of the same, it will seek to amend this Complaint to further elaborate on its willful infringement allegations. The exhaust system on AAI’s aircraft is engraved with the ‘822 Patent number as shown in **Exhibit 5**.

54. Since 2022, NV5’s continued infringement with, at a minimum, constructive notice of the ‘822 Patent and without taking any steps to avoid infringement of the ‘822 Patent constitutes willful infringement.

55. AAI has been damaged in an amount subject to proof at trial either by way of lost profits and/or a reasonable royalty both of NV5’s making and using of its infringing aircraft.

Furthermore, AAI has suffered and will continue to suffer irreparable harm as a result of NV5's continuing infringement of the '822 Patent, including by way of lost operations and sales of AAI's products covered by the '822 Patent or at a minimum a reasonable royalty to compensate for the infringement. This will only be exacerbated as AAI begins to manufacture, sell, and/or install its exhaust systems in the United States on aircraft in a manner that will be covered by one or more claims of the Patents-in-Suit.

## **VI. PRAYER**

WHEREFORE, premises considered, AAI seeks judgment and relief against Defendant NV5, including that:

- (a) Judgment against NV5 be entered on all claims herein;
- (b) NV5 be adjudged and decreed to have infringed the Patents-in-Suit under 35 U.S.C. § 271(a), (b), and/or (c), literally and/or under the doctrine of equivalents, and that such infringement is willful;
- (c) AAI be awarded its damages in an amount not less than a reasonable royalty pursuant to 35 U.S.C. § 284 and that such amount be trebled by the court based on NV5's willful infringement;
- (d) AAI be awarded its costs and pre- and post-judgment interest as permitted by law and pursuant to 35 U.S.C. § 284;
- (e) This case be declared to be an "exceptional case" within the meaning of 35 U.S.C. § 285 and AAI be awarded its reasonable attorneys' fees; and
- (f) Such other and further relief, at law or in equity, to which AAI may be justly entitled.

**VII. JURY DEMAND**

AAI hereby demands a trial by jury on all claims and issues so triable.

Dated: March 25, 2025

Respectfully submitted,

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